

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: AMGEN INC.
- (ii) TITLE OF INVENTION: TRUNCATED SOLUBLE TUMOR NECROSIS FACTOR
TYPE-I AND TYPE-II RECEPTORS
- (iii) NUMBER OF SEQUENCES: 81
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: AMGEN INC.
 - (B) STREET: 1840 De Havilland Drive
 - (C) CITY: Thousand Oaks
 - (D) STATE: California
 - (E) COUNTRY: US
 - (F) ZIP: 91320-1789
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTER: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER:
 - (B) FILING DATE:
 - (C) CLASSIFICATION:
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 60/021,443
 - (B) FILING DATE: 09-JUL-1996
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 60/032,534
 - (B) FILING DATE: 06-DEC-1996
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 60/037,737
 - (B) FILING DATE: 23-JAN-1997
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 60/039,314
 - (B) FILING DATE: 07-FEB-1997
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 60/039,792
 - (B) FILING DATE: 04-MAR-1997
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Zindrick, Thomas D.
 - (B) REGISTRATION NUMBER: 32,185
 - (C) REFERENCE/DOCKET NUMBER: A-415E

(i) SEQUENCE CHARACTERISTICS:

- (ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
(B) LOCATION: 1..483

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

[illegible]

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 161 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

```

Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser
 1           5           10           15
Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys
 20           25           30
Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser
 35           40           45
Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys
 50           55           60
Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp
 65           70           75           80
Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp
 85           90           95
Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly
100          105          110
Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys
115          120          125
His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn
130          135          140
Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu
145          150          155          160
Asn

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(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 332 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 4..324

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|-----|-----|
| CAT | ATG | GAC | AGC | GTT | TGC | CCC | CAA | GGA | AAA | TAC | ATC | CAC | CCT | CAA | AAT | 48 |
| Met | Asp | Ser | Val | Cys | Pro | Gln | Gly | Lys | Tyr | Ile | His | Pro | Gln | Asn | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| AAT | TCG | ATT | TGC | TGT | ACC | AAG | TGC | CAC | AAA | GGA | ACC | TAC | TTG | TAC | AAT | 96 |
| Asn | Ser | Ile | Cys | Cys | Thr | Lys | Cys | His | Lys | Gly | Thr | Tyr | Leu | Tyr | Asn | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| GAC | TGT | CCA | GGC | CCG | GGG | CAG | GAT | ACG | GAC | TGC | AGG | GAG | TGT | GAG | AGC | 144 |
| Asp | Cys | Pro | Gly | Pro | Gly | Gln | Asp | Thr | Asp | Cys | Arg | Glu | Cys | Glu | Ser | |
| | | | 35 | | | | | 40 | | | | 45 | | | | |
| GGC | TCC | TTC | ACC | GCT | TCA | GAA | AAC | CAC | CTC | AGA | CAC | TGC | CTC | AGC | TGC | 192 |
| Gly | Ser | Phe | Thr | Ala | Ser | Glu | Asn | His | Leu | Arg | His | Cys | Leu | Ser | Cys | |
| | | 50 | | | | | 55 | | | | | 60 | | | | |
| TCC | AAA | TGC | CGA | AAG | GAA | ATG | GGT | CAG | GTG | GAG | ATC | TCT | TCT | TGC | ACA | 240 |
| Ser | Lys | Cys | Arg | Lys | Glu | Met | Gly | Gln | Val | Glu | Ile | Ser | Ser | Cys | Thr | |
| | 65 | | | | | 70 | | | | | 75 | | | | | |
| GTG | GAC | CGG | GAC | ACC | GTG | TGT | GGC | TGC | AGG | AAG | AAC | CAG | TAC | CGG | CAT | 288 |
| Val | Asp | Arg | Asp | Thr | Val | Cys | Gly | Cys | Arg | Lys | Asn | Gln | Tyr | Arg | His | |
| | 80 | | | | 85 | | | | 90 | | | | | 95 | | |
| TAT | TGG | AGT | GAA | AAC | CTT | TTC | CAG | TGC | TTC | TGC | TGA | TAGGATCC | | | | 332 |
| Tyr | Trp | Ser | Glu | Asn | Leu | Phe | Gln | Cys | Phe | Cys | * | | | | | |
| | | | 100 | | | | | 105 | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 107 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Ser | Val | Cys | Pro | Gln | Gly | Lys | Tyr | Ile | His | Pro | Gln | Asn | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Ile | Cys | Cys | Thr | Lys | Cys | His | Lys | Gly | Thr | Tyr | Leu | Tyr | Asn | Asp |
| | | 20 | | | | | | 25 | | | | 30 | | | |
| Cys | Pro | Gly | Pro | Gly | Gln | Asp | Thr | Asp | Cys | Arg | Glu | Cys | Glu | Ser | Gly |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Ser | Phe | Thr | Ala | Ser | Glu | Asn | His | Leu | Arg | His | Cys | Leu | Ser | Cys | Ser |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Lys | Cys | Arg | Lys | Glu | Met | Gly | Gln | Val | Glu | Ile | Ser | Ser | Cys | Thr | Val |
| | 65 | | | | 70 | | | | 75 | | | | | 80 | |

Trp Ser Glu Asn Leu Phe Gln Cys Phe Cys *
100 105

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 339 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

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(ix) FEATURE:
      (A) NAME/KEY: CDS
      (B) LOCATION: 4..333
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[illegible]

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 110 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

```

Met Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn
 1           5           10           15
Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp
          20           25           30
Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly
          35           40           45
Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser
          50           55           60
Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val
 65           70           75           80
Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr
          85           90           95
Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu *
          100          105          110

```

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 333 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 4..324

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

```

CAT ATG GAC AGC GTT TGC CCC CAA GGA AAA TAT ATC CAC CCT CAA AAT      48
Met Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn
 1           5           10           15
AAT TCG ATT TGC TGT ACC AAG TGC CAC AAA GGA ACC TAC TTG TAC AAT      96
Asn Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn
          20           25           30

```

| | |
|--|-----|
| GAC TGT CCA GGC CCG GGG CAG GAT ACG GAC TGC AGG GAG TGT GAG AGC Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser | 144 |
| 35 40 45 | |
| GGC TCC TTC ACC GCT TCA GAA AAC CAC CTC AGA CAC TGC CTC AGC TGC Gly Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys | 192 |
| 50 55 60 | |
| TCC AAA TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TCT TGC ACA Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr | 240 |
| 65 70 75 | |
| GTG GAC CGG GAC ACC GTG TGT GGT TGC AGG AAG AAC CAG TAC CGG CAT Val Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His | 288 |
| 80 85 90 95 | |
| TAT TGG AGT GAA AAC CTT TTC CAG TGC TTC AAT TAA TAGGGATCC Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn * | 333 |
| 100 105 | |

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 107 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

| |
|--|
| Met Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn 1 5 10 15 |
| Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp 20 25 30 |
| Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly 35 40 45 |
| Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser 50 55 60 |
| Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val 65 70 75 80 |
| Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr 85 90 95 |
| Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn * |
| 100 105 |

(2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 285 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: unknown
 (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

- (ix) FEATURE:
 (A) NAME/KEY: CDS
 (B) LOCATION: 4..279

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|-----|-----|
| CAT | ATG | TGT | ACC | AAG | TGC | CAC | AAA | GGA | ACC | TAC | TTG | TAC | AAT | GAC | TGT | 48 |
| Met | Cys | Thr | Lys | Cys | His | Lys | Gly | Thr | Tyr | Leu | Tyr | Asn | Asp | Cys | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| CCA | GGC | CCG | GGG | CAG | GAT | ACG | GAC | TGC | AGG | GAG | TGT | GAG | AGC | GGC | TCC | 96 |
| Pro | Gly | Pro | Gly | Gln | Asp | Thr | Asp | Cys | Arg | Glu | Cys | Glu | Ser | Gly | Ser | |
| | | | 20 | | | | | 25 | | | | | | 30 | | |
| TTC | ACC | GCT | TCA | GAA | AAC | CAC | CTC | AGA | CAC | TGC | CTC | AGC | TGC | TCC | AAA | 144 |
| Phe | Thr | Ala | Ser | Glu | Asn | His | Leu | Arg | His | Cys | Leu | Ser | Cys | Ser | Lys | |
| | | | 35 | | | | 40 | | | | | | 45 | | | |
| TGC | CGA | AAG | GAA | ATG | GGT | CAG | GTG | GAG | ATC | TCT | TCT | TGC | ACA | GTG | GAC | 192 |
| Cys | Arg | Lys | Glu | Met | Gly | Gln | Val | Glu | Ile | Ser | Ser | Cys | Thr | Val | Asp | |
| | | 50 | | | | 55 | | | | | | 60 | | | | |
| CGG | GAC | ACC | GTG | TGT | GGC | TGC | AGG | AAG | AAC | CAG | TAC | CGG | CAT | TAT | TGG | 240 |
| Arg | Asp | Thr | Val | Cys | Gly | Cys | Arg | Lys | Asn | Gln | Tyr | Arg | His | Tyr | Trp | |
| | 65 | | | | 70 | | | | | 75 | | | | | | |
| AGT | GAA | AAC | CTT | TTC | CAG | TGC | TTC | AAT | TGC | TCT | CTG | TAA | AAGCTT | | | 285 |
| Ser | Glu | Asn | Leu | Phe | Gln | Cys | Phe | Asn | Cys | Ser | Leu | * | | | | |
| 80 | | | | | 85 | | | | 90 | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 92 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Cys | Thr | Lys | Cys | His | Lys | Gly | Thr | Tyr | Leu | Tyr | Asn | Asp | Cys | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Pro | Gly | Gln | Asp | Thr | Asp | Cys | Arg | Glu | Cys | Glu | Ser | Gly | Ser | Phe |
| | | 20 | | | | | 25 | | | | | | 30 | | |

```

Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys
    35                      40                      45

Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg
    50                      55                      60

Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser
    65                      70                      75                      80

Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu *
    85                      90

```

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 315 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 4..309

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

```

CAT ATG TAT ATC CAC CCT CAA AAT AAT TCG ATT TGC TGT ACC AAG TGC      48
Met Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys
   1                      5                      10                      15

CAC AAA GGA ACC TAC TTG TAC AAT GAC TGT CCA GGC CCG GGG CAG GAT      96
His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp
                      20                      25                      30

ACG GAC TGC AGG GAG TGT GAG AGC GGC TCC TTC ACC GCT TCA GAA AAC      144
Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn
                      35                      40                      45

CAC CTC AGA CAC TGC CTC AGC TGC TCC AAA TGC CGA AAG GAA ATG GGT      192
His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly
                      50                      55                      60

CAG GTG GAG ATC TCT TCT TGC ACA GTG GAC CGG GAC ACC GTG TGT GGC      240
Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly
                      65                      70                      75

TGC AGG AAG AAC CAG TAC CGG CAT TAT TGG AGT GAA AAC CTT TTC CAG      288
Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln
                      80                      85                      90                      95

TGC TTC AAT TGC TCT CTG TAA AAGCTT      315
Cys Phe Asn Cys Ser Leu *
                      100

```

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 102 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

```

Met Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His
 1           5           10           15
Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr
          20           25           30
Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His
          35           40           45
Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln
          50           55           60
Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys
          65           70           75           80
Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys
          85           90           95
Phe Asn Cys Ser Leu *
          100
  
```

(2) INFORMATION FOR SEQ ID NO:13:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 294 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: unknown
 (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:
 (A) NAME/KEY: CDS
 (B) LOCATION: 4..288

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

```

CAT ATG TCG ATT AGC TGT ACC AAG TGC CAC AAA GGA ACC TAC TTG TAC      48
Met Ser Ile Ser Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr
 1           5           10           15

AAT GAC TGT CCA GGC CCG GGG CAG GAT ACG GAC TGC AGG GAG TGT GAG      96
Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu
          20           25           30
  
```

| | |
|---|-----|
| AGC GGC TCC TTC ACC GCT TCA GAA AAC CAC CTC AGA CAC TGC CTC AGC | 144 |
| Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser | |
| 35 40 45 | |
| TGC TCC AAA TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TCT TGC | 192 |
| Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys | |
| 50 55 60 | |
| ACA GTG GAC CGG GAC ACC GTG TGT GGC TGC AGG AAG AAC CAG TAC CGG | 240 |
| Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg | |
| 65 70 75 | |
| CAT TAT TGG AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC TCT CTG TAA | 288 |
| His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu * | |
| 80 85 90 95 | |
| AAGCTT | 294 |

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 95 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

| | |
|---|--|
| Met Ser Ile Ser Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn | |
| 1 5 10 15 | |
| Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser | |
| 20 25 30 | |
| Gly Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys | |
| 35 40 45 | |
| Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr | |
| 50 55 60 | |
| Val Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His | |
| 65 70 75 80 | |
| Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu * | |
| 85 90 95 | |

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

Asn Ser Ile Cys
1

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: unknown
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Asn Asn Ser Ile Cys
1 5

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: unknown
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

Gln Asn Asn Ser Ile Cys
1 5

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 7 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: unknown
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Pro Gln Asn Asn Ser Ile Cys
1 5

(2) INFORMATION FOR SEQ ID NO:19:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 8 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

His Pro Gln Asn Asn Ser Ile Cys
1 5

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 9 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Ile His Pro Gln Asn Asn Ser Ile Cys
1 5

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 10 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Tyr Ile His Pro Gln Asn Asn Ser Ile Cys
1 5 10

(2) INFORMATION FOR SEQ ID NO:22:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 11 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Tyr | Ile | His | Pro | Gln | Asn | Asn | Ser | Ile | Cys |
| 1 | | | | 5 | | | | | 10 | |

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

| | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Lys | Tyr | Ile | His | Pro | Gln | Asn | Asn | Ser | Ile | Cys |
| 1 | | | | 5 | | | | | 10 | | |

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 13 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Gly | Lys | Tyr | Ile | His | Pro | Gln | Asn | Asn | Ser | Ile | Cys |
| 1 | | | | 5 | | | | | 10 | | | |

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Gln | Gly | Lys | Tyr | Ile | His | Pro | Gln | Asn | Asn | Ser | Ile | Cys |
| 1 | | | | 5 | | | | | 10 | | | | |

(2) INFORMATION FOR SEQ ID NO:26:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 15 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: unknown
 (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Pro | Gln | Gly | Lys | Tyr | Ile | His | Pro | Gln | Asn | Asn | Ser | Ile | Cys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

(2) INFORMATION FOR SEQ ID NO:27:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 16 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: unknown
 (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Cys | Pro | Gln | Gly | Lys | Tyr | Ile | His | Pro | Gln | Asn | Asn | Ser | Ile | Cys |
| 1 | | | | 5 | | | | | 10 | | | | | | 15 |

(2) INFORMATION FOR SEQ ID NO:28:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 17 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: unknown
 (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Val | Cys | Pro | Gln | Gly | Lys | Tyr | Ile | His | Pro | Gln | Asn | Asn | Ser | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Cys

(2) INFORMATION FOR SEQ ID NO:29:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 18 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser
1 5 10 15
Ile Cys

(2) INFORMATION FOR SEQ ID NO:30:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 4 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Phe Cys Cys Ser
1

(2) INFORMATION FOR SEQ ID NO:31:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Phe Cys Cys Ser Leu
1 5

(2) INFORMATION FOR SEQ ID NO:32:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 6 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Phe Cys Cys Ser Leu Cys
1 5

(2) INFORMATION FOR SEQ ID NO:33:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 7 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Phe Cys Cys Ser Leu Cys Leu
1 5

(2) INFORMATION FOR SEQ ID NO:34:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 705 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..705

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

TTG CCC GCC CAG GTG GCA TTT ACA CCC TAC GCC CCG GAG CCC GGG AGC 48
Leu Pro Ala Gln Val Ala Phe Thr Pro Tyr Ala Pro Glu Pro Gly Ser
1 5 10 15

ACA TGC CGG CTC AGA GAA TAC TAT GAC CAG ACA GCT CAG ATG TGC TGC 96
Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys Cys
20 25 30

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AGC | AAG | TGC | TCG | CCG | GGC | CAA | CAT | GCA | AAA | GTC | TTC | TGT | ACC | AAG | ACC | 144 |
| Ser | Lys | Cys | Ser | Pro | Gly | Gln | His | Ala | Lys | Val | Phe | Cys | Thr | Lys | Thr | |
| | 35 | | | | | | 40 | | | | | 45 | | | | |
| TCG | GAC | ACC | GTG | TGT | GAC | TCC | TGT | GAG | GAC | AGC | ACA | TAC | ACC | CAG | CTC | 192 |
| Ser | Asp | Thr | Val | Cys | Asp | Ser | Cys | Glu | Asp | Ser | Thr | Tyr | Thr | Gln | Leu | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| TGG | AAC | TGG | GTT | CCC | GAG | TGC | TTG | AGC | TGT | GGC | TCC | CGC | TGT | AGC | TCT | 240 |
| Trp | Asn | Trp | Val | Pro | Glu | Cys | Leu | Ser | Cys | Gly | Ser | Arg | Cys | Ser | Ser | |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| GAC | CAG | GTG | GAA | ACT | CAA | GCC | TGC | ACT | CGG | GAA | CAG | AAC | CGC | ATC | TGC | 288 |
| Asp | Gln | Val | Glu | Thr | Gln | Ala | Cys | Thr | Arg | Glu | Gln | Asn | Arg | Ile | Cys | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| ACC | TGC | AGG | CCC | GGC | TGG | TAC | TGC | GCG | CTG | AGC | AAG | CAG | GAG | GGG | TGC | 336 |
| Thr | Cys | Arg | Pro | Gly | Trp | Tyr | Cys | Ala | Leu | Ser | Lys | Gln | Glu | Gly | Cys | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| CGG | CTG | TGC | GCG | CCG | CTG | CGC | AAG | TGC | CGC | CCG | GGC | TTC | GGC | GTG | GCC | 384 |
| Arg | Leu | Cys | Ala | Pro | Leu | Arg | Lys | Cys | Arg | Pro | Gly | Phe | Gly | Val | Ala | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| AGA | CCA | GGA | ACT | GAA | ACA | TCA | GAC | GTG | GTG | TGC | AAG | CCC | TGT | GCC | CCG | 432 |
| Arg | Pro | Gly | Thr | Glu | Thr | Ser | Asp | Val | Val | Cys | Lys | Pro | Cys | Ala | Pro | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| GGG | ACG | TTC | TCC | AAC | ACG | ACT | TCA | TCC | ACG | GAT | ATT | TGC | AGG | CCC | CAC | 480 |
| Gly | Thr | Phe | Ser | Asn | Thr | Thr | Ser | Ser | Thr | Asp | Ile | Cys | Arg | Pro | His | |
| | 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| CAG | ATC | TGT | AAC | GTG | GTG | GCC | ATC | CCT | GGG | AAT | GCA | AGC | AGG | GAT | GCA | 528 |
| Gln | Ile | Cys | Asn | Val | Val | Ala | Ile | Pro | Gly | Asn | Ala | Ser | Arg | Asp | Ala | |
| | | | | 165 | | | | 170 | | | | | | 175 | | |
| GTC | TGC | ACG | TCC | ACG | TCC | CCC | ACC | CGG | AGT | ATG | GCC | CCA | GGG | GCA | GTA | 576 |
| Val | Cys | Thr | Ser | Thr | Ser | Pro | Thr | Arg | Ser | Met | Ala | Pro | Gly | Ala | Val | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| CAC | TTA | CCC | CAG | CCA | GTG | TCC | ACA | CGA | TCC | CAA | CAC | ACG | CAG | CCA | ACT | 624 |
| His | Leu | Pro | Gln | Pro | Val | Ser | Thr | Arg | Ser | Gln | His | Thr | Gln | Pro | Thr | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| CCA | GAA | CCC | AGC | ACT | GCT | CCA | AGC | ACC | TCC | TTC | CTG | CTC | CCA | ATG | GGC | 672 |
| Pro | Glu | Pro | Ser | Thr | Ala | Pro | Ser | Thr | Ser | Phe | Leu | Leu | Pro | Met | Gly | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| CCC | AGC | CCC | CCA | GCT | GAA | GGG | AGC | ACT | GGC | GAC | | | | | | 705 |
| Pro | Ser | Pro | Pro | Ala | Glu | Gly | Ser | Thr | Gly | Asp | | | | | | |
| | 225 | | | | 230 | | | | | 235 | | | | | | |

(2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 235 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Leu | Pro | Ala | Gln | Val | Ala | Phe | Thr | Pro | Tyr | Ala | Pro | Glu | Pro | Gly | Ser | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Thr | Cys | Arg | Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys | Cys | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Ser | Lys | Cys | Ser | Pro | Gly | Gln | His | Ala | Lys | Val | Phe | Cys | Thr | Lys | Thr | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Ser | Asp | Thr | Val | Cys | Asp | Ser | Cys | Glu | Asp | Ser | Thr | Tyr | Thr | Gln | Leu | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Trp | Asn | Trp | Val | Pro | Glu | Cys | Leu | Ser | Cys | Gly | Ser | Arg | Cys | Ser | Ser | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Asp | Gln | Val | Glu | Thr | Gln | Ala | Cys | Thr | Arg | Glu | Gln | Asn | Arg | Ile | Cys | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Thr | Cys | Arg | Pro | Gly | Trp | Tyr | Cys | Ala | Leu | Ser | Lys | Gln | Glu | Gly | Cys | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Arg | Leu | Cys | Ala | Pro | Leu | Arg | Lys | Cys | Arg | Pro | Gly | Phe | Gly | Val | Ala | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Arg | Pro | Gly | Thr | Glu | Thr | Ser | Asp | Val | Val | Cys | Lys | Pro | Cys | Ala | Pro | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Gly | Thr | Phe | Ser | Asn | Thr | Thr | Ser | Ser | Thr | Asp | Ile | Cys | Arg | Pro | His | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Gln | Ile | Cys | Asn | Val | Val | Ala | Ile | Pro | Gly | Asn | Ala | Ser | Arg | Asp | Ala | |
| | | | 165 | | | | | | 170 | | | | | 175 | | |
| Val | Cys | Thr | Ser | Thr | Ser | Pro | Thr | Arg | Ser | Met | Ala | Pro | Gly | Ala | Val | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| His | Leu | Pro | Gln | Pro | Val | Ser | Thr | Arg | Ser | Gln | His | Thr | Gln | Pro | Thr | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| Pro | Glu | Pro | Ser | Thr | Ala | Pro | Ser | Thr | Ser | Phe | Leu | Leu | Pro | Met | Gly | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Pro | Ser | Pro | Pro | Ala | Glu | Gly | Ser | Thr | Gly | Asp | | | | | | |
| 225 | | | | | 230 | | | | | 235 | | | | | | |

(2) INFORMATION FOR SEQ ID NO:36:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 4 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

Ala Gln Met Cys
1

(2) INFORMATION FOR SEQ ID NO:37:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

Thr Ala Gln Met Cys
1 5

(2) INFORMATION FOR SEQ ID NO:38:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 6 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

Gln Thr Ala Gln Met Cys
1 5

(2) INFORMATION FOR SEQ ID NO:39:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 7 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

Asp Gln Thr Ala Gln Met Cys
1 5

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 8 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: unknown
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

Tyr Asp Gln Thr Ala Gln Met Cys
1 5

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 9 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: unknown
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

Tyr Tyr Asp Gln Thr Ala Gln Met Cys
1 5

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 10 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: unknown
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys
1 5 10

(2) INFORMATION FOR SEQ ID NO:43:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 11 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys |
| 1 | | | | 5 | | | | | 10 | |

(2) INFORMATION FOR SEQ ID NO:44:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 12 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

| | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys |
| 1 | | | | 5 | | | | | | 10 | |

(2) INFORMATION FOR SEQ ID NO:45:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 13 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys |
| 1 | | | | 5 | | | | | | 10 | | |

(2) INFORMATION FOR SEQ ID NO:46:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 14 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Arg | Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys |
| 1 | | | | 5 | | | | | 10 | | | | |

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Cys | Arg | Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Thr | Cys | Arg | Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

(2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ser | Thr | Cys | Arg | Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

Cys

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Gly | Ser | Thr | Cys | Arg | Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

Met Cys

(2) INFORMATION FOR SEQ ID NO:51:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Pro | Gly | Ser | Thr | Cys | Arg | Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

Gln Met Cys

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln Thr
1 5 10 15
Ala Gln Met Cys
 20

(2) INFORMATION FOR SEQ ID NO:53:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 21 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: unknown
 (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

Ala Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln
1 5 10 15
Thr Ala Gln Met Cys
 20

(2) INFORMATION FOR SEQ ID NO:54:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 22 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: unknown
 (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

Tyr Ala Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg Glu Tyr Tyr Asp
1 5 10 15
Gln Thr Ala Gln Met Cys
 20

(2) INFORMATION FOR SEQ ID NO:55:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 23 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Tyr | Ala | Pro | Glu | Pro | Gly | Ser | Thr | Cys | Arg | Leu | Arg | Glu | Tyr | Tyr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asp | Gln | Thr | Ala | Gln | Met | Cys | | | | | | | | | |
| | | | 20 | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:56:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 24 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Pro | Tyr | Ala | Pro | Glu | Pro | Gly | Ser | Thr | Cys | Arg | Leu | Arg | Glu | Tyr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys | | | | | | | | |
| | | | 20 | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:57:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Thr | Pro | Tyr | Ala | Pro | Glu | Pro | Gly | Ser | Thr | Cys | Arg | Leu | Arg | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys | | | | | | | |
| | | | 20 | | | | | 25 | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:58:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 26 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: unknown
 (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Phe | Thr | Pro | Tyr | Ala | Pro | Glu | Pro | Gly | Ser | Thr | Cys | Arg | Leu | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys | | | | | | |
| | | | 20 | | | | | 25 | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:59:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 27 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: unknown
 (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ala | Phe | Thr | Pro | Tyr | Ala | Pro | Glu | Pro | Gly | Ser | Thr | Cys | Arg | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys | | | | | |
| | | | 20 | | | | | 25 | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:60:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 28 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: unknown
 (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Ala | Phe | Thr | Pro | Tyr | Ala | Pro | Glu | Pro | Gly | Ser | Thr | Cys | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys | | | | |
| | | | 20 | | | | | 25 | | | | | | | |

(2) INFORMATION FOR SEQ ID NO:61:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 29 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Ala Gln Val Ala Phe Thr Pro Tyr Ala Pro Glu Pro Gly Ser Thr Cys
1 5 10 15

Arg Leu Arg Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys
20 25

(2) INFORMATION FOR SEQ ID NO:62:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 30 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

Pro Ala Gln Val Ala Phe Thr Pro Tyr Ala Pro Glu Pro Gly Ser Thr
1 5 10 15

Cys Arg Leu Arg Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys
20 25 30

(2) INFORMATION FOR SEQ ID NO:63:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Pro | Ala | Gln | Val | Ala | Phe | Thr | Pro | Tyr | Ala | Pro | Glu | Pro | Gly | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Cys | Arg | Leu | Arg | Glu | Tyr | Tyr | Asp | Gln | Thr | Ala | Gln | Met | Cys | |
| | | | 20 | | | | | 25 | | | | | 30 | | |

(2) INFORMATION FOR SEQ ID NO:64:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 4 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: unknown
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

| | | | |
|-----|-----|-----|-----|
| Ala | Pro | Leu | Arg |
| 1 | | | |

(2) INFORMATION FOR SEQ ID NO:65:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: unknown
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

| | | | | |
|-----|-----|-----|-----|-----|
| Ala | Pro | Leu | Arg | Lys |
| 1 | | | 5 | |

(2) INFORMATION FOR SEQ ID NO:66:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: unknown
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| Ala | Pro | Leu | Arg | Lys | Cys |
| 1 | | | 5 | | |

(2) INFORMATION FOR SEQ ID NO:67:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 7 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

Ala Pro Leu Arg Lys Cys Arg
1 5

(2) INFORMATION FOR SEQ ID NO:68:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

GGTTAGCCAT ATGGACAGCG TTTGCCCCCA A

31

(2) INFORMATION FOR SEQ ID NO:69:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 33 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

CCCAAGCTTT TACAGAGAGC AATTGAAGCA CTG

33

(2) INFORMATION FOR SEQ ID NO:70:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 40 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

ACTCGAGGAT CCGCGGATAA ATAAGTAACG ATCCGGTCCA

40

(2) INFORMATION FOR SEQ ID NO:71:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 41 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

CAGGTCGGAT CCTATCAGCA GAAGCACTGG AAAAGGTTTT C

41

(2) INFORMATION FOR SEQ ID NO:72:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

GGTTAGCCAT ATGGACAGCG TTTGCCCCCA A

31

(2) INFORMATION FOR SEQ ID NO:73:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 34 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

CGCGGATCCC TATTAATTGA AGCACTGGAA AAGG

34

(2) INFORMATION FOR SEQ ID NO:74:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

CCCCATATGT ATATCCACCC TCAAATAAT

30

(2) INFORMATION FOR SEQ ID NO:75:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 33 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

CCCAAGCTTT TACAGAGAGC AATTGAAGCA CTG

33

(2) INFORMATION FOR SEQ ID NO:76:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 38 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

CCCCATATGT CGATTAGCTG TACCAAGTGC CACAAAGG

38

(2) INFORMATION FOR SEQ ID NO:77:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 33 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

CCCAAGCTTT TACAGAGAGC AATTGAAGCA CTG

33

(2) INFORMATION FOR SEQ ID NO:78:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

CCCCATATGT GTACCAAGTG CCACAAAGGA

30

(2) INFORMATION FOR SEQ ID NO:79:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 33 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

CCCAAGCTTT TACAGAGAGC AATTGAAGCA CTG

33

(2) INFORMATION FOR SEQ ID NO:80:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

GGTTAGCCAT ATGGACAGCG TTTGCCCCCA A

31

(2) INFORMATION FOR SEQ ID NO:81:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 33 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: unknown
 - (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

CCCAAGCTTT TAGGTGCACA CGGTGTTCTG TTT

33